

# HONOURS BSC (COMPUTER SCIENCE MAJOR)

Four Year program

## Notes:

1. There are two focus areas in this program: Business Focus and Science Focus. Students must choose one at the time of initial registration. For help in making this choice, contact the Chair of the Department of Computer Science.
2. Year-to-year continuation in the program requires an average of at least 70% in all Computer Science courses.
3. Students in this program are required to take at least five FCEs outside the Departments of Computer Science and Mathematical Sciences.
4. Electives from the list of program electives (see HBSc (Computer Science) Co-operative Program) must include at least three of: 4478, 4475, 4471, 4311, 4312, 4476. Additionally students seeking to satisfy a specialization in the department must choose appropriate computer science electives.
5. Students completing the Business Focus program requirements and wishing to qualify for the Entrepreneurship Certificate in the Faculty of Business Administration must, instead of Business 1013, take as an elective a course from the following list: Business 2033, 3013, 3213, 3413, 4253; or an alternate approved by the Faculty of Business Administration.
6. In the Science Focus at least one FCE elective from Type C courses (except Engineering) must be at the second year level or higher and such specified electives must not include zero level courses.
7. Students following either the Science Focus or Business Focus and wishing to pursue scientific computing should choose Mathematics 3351 and/or Mathematics 3371 and should choose the necessary prerequisites from Mathematics as part of their electives (with attention paid to Note 3 above).

## First Year (Fall and Winter):

- (a) Mathematics 1171, 1271
- (b) Computer Science 1411, 1431
- (c) One FCE elective chosen from any combination of first year English, History or Philosophy
- (d) One FCE elective

## Business Focus:

- (a) Business 1511, 1512

## Science Focus:

- (a) One FCE elective from Type C courses (except Engineering)

## Second Year (Fall and Winter):

- (a) Mathematics 2310, 2255
- (b) Computer Science 2412, 2430, 2453, 2476, 2477
- (c) One half-course elective

## Business Focus:

- (a) Business 2514, 2538

## Science Focus:

- (a) Sociology 2755
- (b) One half-course elective from Type C courses (except Engineering)

**Third Year (Fall and Winter):**

- (a) Computer Science 3413, 3415, 3473, 4453
- (b) Computer Science 4433
- (c) One FCE elective
- (d) One half-course from list of program electives

**Business Focus:**

- (a) Sociology 2755
- (b) Business 3215

**Science Focus:**

- (a) One half-course elective
- (b) One half course from list of program electives

**Fourth Year (Fall and Winter):**

- (a) Computer Science 4411
- (b) Either Computer Science 4431 or 4432 or 4434
- (c) One and one-half FCE from list of program electives

**Business Focus:**

- (a) Two FCE electives
- (b) One-half FCE from list of program electives

**Science Focus:**

- (a) One FCE elective from Type C courses (except Engineering)
- (b) One and one-half FCE electives

Note: The Indigenous Content Requirement is being fulfilled by the Sociology 2755.

**List of Program Electives**

- Computer Science 4111 - Clinical Decision Support
- Computer Science 4112 - Introduction to Data Science
- Computer Science 4413 - Programming Language Processors
- Computer Science 4433 - Algorithm Design and Analysis
- Computer Science 4451 - Theory of Computing
- Computer Science 4471 - Computer Graphics
- Computer Science 4475 - Topics in Artificial Intelligence
- Computer Science 4476 - Cryptography and Network Security
- Computer Science 4478 - Game Programming
- Computer Science 4479 - Directed Research in Computer Science
- Computer Science 4210 - Special Topics
- Computer Science 4310 - Web Health Informatics
- Computer Science 4311 - Big Data
- Computer Science 4312 - Cloud Computing